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REGULATORY AND SURVEY MANUAL FOR THE VARROA MITE

Animal and
Plant Health
Inspection
Service

Plant Protection
and Quarantine

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INTRODUCTION

Purpose

This manual will prepare you to:

- Survey for the Varroa mite (Varroa jacobsoni), or
- Supervise the application of a regulatory treatment to prevent the movement of the Varroa mite.

The reason Plant Protection and Quarantine is taking regulatory action against this mite is that the current Varroa mite infestations endanger U.S. agriculture. Honey production could drop substantially--by as much as one-third! Moreover, since many crops require pollination by bees, this mite could cause serious economic losses to those agricultural enterprises dependent upon pollination.

Scope

The manual is broadly divided into four sections:

- Introduction
- Procedures
- Definitions
- Appendixes

The Procedures Section is divided into directions for surveying for the Varroa mite and for treating honeybees to prevent the movement of the mite. There are four sets of directions for treating regulated articles:

- Treating bees in queen cages
- Treating package bees
- Treating bees in hives
- Treating regulated articles other than bees

Users

This manual is for experienced Federal and State regulatory officers.

Related Document

Your regulatory authority for surveying for and treating bees to prevent the movement of the Varroa mite are contained in 7CFR 301 Subpart VARROA MITE (301.92 through 301.92-10).

Application	<p>Only certified pesticide applicators may use or supervise the application of the pesticide fluvalinate (Apistan®). Officers unfamiliar with bees or beekeeping must be trained by, or work with, an experienced beekeeper.</p> <p>WARNING: Officers who are known to be sensitive to bee venom are <u>not</u> to be assigned to this job!</p>
Reporting Problems	<p>If you want to suggest an improvement or to identify a problem with the content of this manual, complete and mail the "Comment Sheet" at the back of this manual. If the problem is urgent, call John L. Patterson of the Professional Development Center at (301) 663-0342. If you disagree with policy in this manual, contact Domestic and Emergency Operations through channels. Ask to speak to Milton C. Holmes at FTS 436-6365 or commercial (301) 436-6365.</p>
Usage	<p>Look over the contents of this manual to get a feel for its scope. Glance over the Index so you're familiar with its use. Carefully read over the the section on "Safety Around Bees" before following any of the procedures.</p>
Conventions	<p>The alert "WARNING" indicates a hazard or unsafe practice that could result in injury or death.</p> <p>The alert "CAUTION" indicates a hazard or unsafe practice that could result in damage to articles or property.</p> <p>Underlining is used to alert you to scientific names (for example, <u>Varroa jacobsoni</u>) or to a negative statement (for example, If you <u>cannot</u>).</p>

METHODS AND PROCEDURES

Introduction

This introduction has information to prepare you for working around bees and to help you locate beeyards and beekeepers. Read this section before you go out to survey or to treat bees.

Safety Around Bees

When working around bees, here are some things you can do to avoid being stung:

- Schedule your visits to beeyards on warm, sunny days--bees may be bad tempered during cool, cloudy, or rainy weather.
- Listen to the hive--if you hear a loud, shrill and strident, high-pitched sound, the bees may be warning you to keep away.
- If you have been working around cattle, horses, or other animals, change your clothes--bees don't like these odors.
- Wear white or tan clothing; avoid wearing blue, green, or dark colored clothing--these colors irritate bees.
- Wear protective clothing--a veil over your head and face, gloves for your hands.
- Tuck your pants into your socks or close off your pantleg with a rubber band--bees may attack your ankles because they are on the level of the hive entrance.
- Work slowly around bees--fast motion is more noticable to bees and may result in stings.
- Work closely with beekeepers, they know their bees better than anyone--especially which hives have the meanest bees.
- Always use a smoker when working around bees--smoke causes the bees to gorge on honey, making it hard for them to bend and sting. Smoke pacifies bees and masks chemical alarm signals.

What To Do If You Are Stung

If you are stung, immediately remove the stinger by scraping it off with your fingernail or any straight-edged instrument (like a hive tool). Never pull the stinger out because this will force more venom into your skin. Since the stinger is barbed, immediate removal can greatly reduce the effect of the sting.

Using Smoke To Control The Temper of Bees

The temper of bees can be temporarily controlled with smoke. The amount of smoke to use on a hive varies with time of day, temperature, cloud cover, and other factors. The right amount of smoke to use will come with experience. Here are directions for using the smoker:

1. Collect some fuel for the smoker. Good fuels include clean burlap; dry wood shavings; dry, rotted cow or horse dung; dry pine needles; or dry, rotted wood.
2. Fire up the smoker. Light a small wad of paper and drop it into the bottom of the smoker canister. Gradually add fuel while slowly working the bellows.
3. Work the bellows from time to time so that the fire doesn't go out.
4. Approach the hive slowly and stand to one side of the hive. If you stand in front of the hive, you're more likely to be stung and you'll disorient the bees and delay their entrance into the hive.
5. When you are ready to open the hive, gently blow a couple of puffs of smoke into the entrance. Wait a minute or two and then remove the outer cover of the hive.
6. Pry up one corner of the inner cover using the flat edge of your hive tool. Blow some smoke through the crack as you lift off the inner cover.
7. Blow a couple of puffs of smoke across the tops of the frames to drive the bees down.
8. Now you are ready to begin removing supers, placing the Apistan® strips, and/or inserting the mite detector.

Locating Beeyards and Beekeepers

In order to survey for the Varroa mite and to treat bees to prevent the movement of this pest, you must be able to locate beeyards and beekeepers. Here are a few pointers:

- Contact the State office responsible for inspecting beeyards (apiaries). In many States this office is responsible for issuing permits for the movement of bees into other States. This office keeps records which will list and give addresses of beeyards in the State, as well as records of bees moving out of the State--like dates of movement; where the hives are to be moved; the number of hives moving; and where those hives are to be located.
- Contact county beekeeping associations. These people can help you locate hobbyists and noncommercial beeyards. Members can also tell you where the largest and most knowledgeable beekeepers have their operations.
- Contact local beekeepers. Beekeeping is very competitive and local beekeepers know when and where bees are moving into their areas from another State. Since your larger beekeepers are often known for their expertise, these experts are contacted by smaller operators and hobbyists--hence, a good source of information on the locations of these beekeepers and their beeyards.
- Talk to local county extension agents and 4-H leaders. These people may know about hobbyists and commercial beekeeping operations.
- Talk to farmers, especially seed and fruit growers. These individuals often contract for pollination or may keep their own bees.

Migratory beekeepers may be difficult to locate. The more contacts you make, the better.

METHODS AND PROCEDURES

Directions for Detecting the Varroa Mite

Overview

1. The procedure for detecting infestations of the Varroa mite begins with officers locating all the beeyards in a State.
2. Once the beeyards are located, officers target 5 percent of the hives in each beeyard for installation of devices called "Varroa Mite Detectors."
3. Installing the detectors in a hive involves first removing the hive cover and hanging two plastic strips between the frames of the hive's brood chamber. These strips are impregnated with the pesticide fluvalinate (Apistan®) which is lethal to the Varroa mite but not to the bees.
4. After hanging the Apistan® strips, a frame containing a cardboard insert with a white sticky bottom (the frame plus its insert is called a detector) is slipped into the hive's entrance. This detector will trap the mites that are killed by the Apistan® and that fall to the bottom of the hive. The sticky bottom that traps the mites is protected with a one-eighth of an inch mesh screen so that the bees cannot clean the mites away.
5. Leaving the detectors in place for 5 days, the officer returns to the hives to see if any mites have been trapped. If mites are trapped, they are submitted to specialists for confirmation--are they the Varroa mite or something else.
6. The detection process ends with the officer disinfecting the detectors for reuse and safely disposing of the spent Apistan® strips.

Equipment

1. Equipment for handling bees:
 - A bee veil for protecting your face from the bees
 - No smaller than a 10-inch-high bee smoker
 - Gloves to protect your hands from stings
 - A hive tool for opening hives
 - White or tan coveralls
2. Equipment for applying Apistan®:
 - Apistan® strips to be hung across frames
 - 2 inch finishing nails for hanging the Apistan® strips
3. Equipment for installing the mite detectors:
 - Varroa Mite Detectors (reusable, wooden frames for holding inserts)
 - Varroa Mite Detector Inserts for trapping the mites
 - A 10 power hand lens for examining trapped structures
4. Equipment for submitting suspected mites:
 - Index cards for making labels
 - Pencil, not a pen, for filling out labels and inserts
 - Forceps for picking the mites off the inserts
 - Vials containing 70 percent alcohol to preserve the mites
 - A pad of PPQ Form 391's for submitting specimens
5. Equipment for cleaning and disinfection
 - A 70 percent alcohol solution for disinfecting the detector
 - A soft bristled brush for cleaning the detector's plastic screen

Step 1--Selecting
Hives for Detect-
ing Mites

Select the hives for placement of the Varroa Mite Detector and the accompanying Apistan® strips.

If there are:	Then randomly select:
20 or fewer hives in the beeyard	One hive for placement of a mite detector
More than 20 hives in the beeyard	5 percent of the hives for placement of a mite detector

Step 2--Taking
Precautions if
Honey Supers Are
Present

If any of the hives you selected for survey have supers for honey, see that these are removed before hanging the Apistan® strip.

Step 3--Obtaining
the Apistan® Strips

Make sure that you have enough Apistan® strips to allow the placement of two strips per hive.

Step 4--Preparing
the Apistan® Strips

Put a nail through the top of each strip so that you can hang the strip between brood frames.

Step 5--Deciding
Where to Hang the
Apistan® Strips

Remove the cover of the hive so that you can see the frames.

If:	Then:
Eight to ten frames are present	Hang two strips--one between the 3rd and 4th frame; the other between the 7th and 8th frame
Less than eight frames are present	Hang two strips between two sets of frames so that the strips are spaced equally on both sides of the hive

Step 6--Covering
the Hive

Put the cover back on the hive.

Step 7--Making a Record

Fill in the following information at the bottom of the insert:

Beekeeper: _____ Set Date ____/____/____
Location: _____ Removal Date ____/____/____
Inspector: _____

Step 8--Preparing the Insert

Peel the corrugated protective sheet off the insert so that the insert's sticky bottom is exposed.

Step 9--Assembling the Detector

Slide the cardboard insert into the detector's frame so that the sticky side faces the plastic screen.

Step 10--Cleaning

Clean out any debris from the bottom board.

Step 11--Inserting the Detector into the Hive

Slip the detector into the hive entrance so that the protective plastic screen of the insert faces up and the tab faces out. If the hive entrance has a reducer, you'll either have to remove it before inserting the detector or you'll have to remove the brood chamber and place the detector inside the bottom board.

Step 12--Safeguarding

Apply a seal or tamper proof tape to the hive's cover after the strips are in place. Safeguard the detector so that it cannot be removed by unauthorized personnel.

Step 13--Recording the Location of Hives Treated

Record the locations of the hives with the detectors and warn the beekeeper not to move the hives or place supers on these hives having the Apistan® strips.

Step 14--Advising the Beekeeper When You Will Return

Let the beekeeper know that you will return to the beeyard in 5 days to see if the detectors have trapped any mites. **CAUTION:** Make sure you return on time. The longer you leave the strips in the hive, the greater the opportunity for harm to the bees.

Step 15--Removing the Apistan® Strips and Detectors

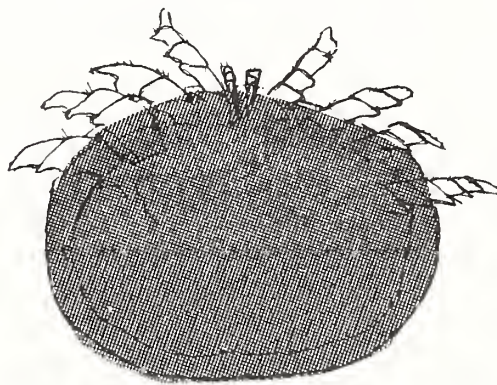
Return to the beeyard after 5 days and remove the covers of the hives that have the detectors and remove the two Apistan® strips that were placed inside. Put the used

strips in a safe place for later disposal. The strips are not to be reused. After removing the two Apistan® strips, remove the detector from the hive entrance.

Step 16--Examining Look at the sticky, white bottoms of the inserts.

Step 17--Isolating Using a hand lens, look for any broadly elliptical
Structures that structures that are stuck in the inserts. These structures
Resemble Mites will look somewhat like oval crabs if you can see their
 legs. They're about a quarter the size of a rice grain
 and reddish brown (see the illustration below):

If:	Then:
Any of the structures resemble mites	You have a positive suspect--Continue to Step 18
<u>None</u> of the structures resemble mites	<ol style="list-style-type: none"> 1. Consider the hive free from the Varroa mite, 2. If you are surveying in a State that is <u>not</u> regulated for the Varroa mite, notify the beekeeper that the hive(s) are free from the mite and approved for unrestricted movement--also the supers may be returned to the hives, then 3. Move to another hive (or beeyard) after you have disinfected all equipment (Step 20)



-
Actual size

Figure 1--A dorsal aspect of a female Varroa mite
(Varroa jacobsoni)

Step 18--Submitting
Specimens for
Determination

Complete a PPQ Form 391 (Specimens for Determination) and submit the suspected mites to the Beneficial Insects Laboratory in Beltsville: 1/

If you:	Then:
Can locate six or more suspected mites on a half-inch square of the insert	<ol style="list-style-type: none"> 1. Cut out a 4- by 4-inch square of the insert containing the suspected mites, 2. Write the date and the location on the back of the sample, 3. Cover the sample with plastic wrap, then 4. Submit the sample with suspected mites for confirmation
<u>Cannot</u> locate six or more suspected mites on a half-inch square of the insert	<ol style="list-style-type: none"> 1. Using forceps, pick the suspected mites off the insert and drop them in a vial containing 70 percent alcohol 2. Make a label which will fit inside the vial from an index card and pencil in the date and the location, then 3. Submit the vial with suspected mites for confirmation

1/ Beneficial Insects Laboratory
BARC - East
Building 476
Beltsville, MD 20705

Step 19--Issuing
an Emergency
Action Order

After completing the PPQ Form 391, issue an Emergency Action Order so that nothing in the beeyard is allowed to move.

Step 20--Cleaning
and Disinfecting

CAUTION: Wash the detector's wooden frame and all tools in a 70 percent alcohol solution to prevent the transfer of mites and bee diseases to other hives or other beeyards. Clean the plastic screen with a soft bristled brush. All equipment must be cleaned and disinfected before using it in any other beeyard. Follow the directions that can be provided by your State apiarist to prevent the dissemination of mites and bee diseases from one beeyard to another.

Step 21--Disposing

Dispose of the spent Apistan® strips. Wrap the strips in newspaper and put them in the trash. **CAUTION:** Do not remove the spent strips from the beeyard since the strips could be carrying pathogens of bees.

Step 22--Waiting
for Confirmation

If you submitted specimens for identification, wait for confirmation from the bee lab as to whether or not the suspect is a Varroa mite.

If the bee lab:	Then:
Confirms the suspect as a Varroa mite	The State will be placed under quarantine for the Varroa mite
Reports that no Varroa mites were found	1. Rescind the Emergency Action Order, and 2. Continue surveying until every beeyard in the State has been examined

THIS ENDS THE DIRECTIONS FOR DETECTING THE VARROA MITE

METHODS AND PROCEDURES

Directions for Applying Regulatory Treatments

Overview

1. The procedure for treating regulated articles to prevent the movement of the Varroa mite begins with a beekeeper asking an officer to issue a certificate or a limited permit. These documents are issued for bees and other regulated articles moving from States infested with the Varroa mite into or through States where this pest is not known to occur.
2. Once an officer is asked to issue a certificate or a limited permit for the movement of a regulated article, the officer must know what exactly is to be moved. The only bees that may be certified are those moving in hives, those shipped in 2 or 3 pound packages, and queens and their attendants shipped in queen cages.
3. Knowing that the bees are in acceptable containers that may be certified or issued a limited permit, an officer supervises the treatment of the bees. The only pesticide approved for treating bees for the Varroa mite is fluvalinate (Apistan®). When applied according to the pesticide's label and the directions that follow, this pesticide kills the mite while leaving the bees unharmed. The treatment involves hanging plastic strips impregnated with Apistan® in the cages or hives to be moved. There are three different kinds of strips for treating bees in hives, bees in packages, or queens and their attendants in queen cages.
4. Once the bees (or regulated articles) are treated and safeguarded, the officer returns after a specified interval, to verify the treatment and to issue the documents required for the movement of the articles. If bees were treated, the officer must not allow the Apistan® strips to remain with them longer than the required interval since the bees may be harmed by the pesticide used to kill the mites. Following treatment, the officer ensures that the bees or article is safeguarded from reinfestation by the mite and tells the beekeeper that the regulated article must be shipped within 48 hours.
5. Treatment ends by safely disposing of the spent Apistan® strips.

Equipment

1. Equipment for working around bees:

- A bee veil for protecting your face from the bees
- No smaller than a 10-inch-high bee smoker
- Gloves and white or tan coveralls
- A hive tool for opening hives

2. Equipment for applying Apistan® or treating articles:

- Apistan® Strips for treating bees moving in hives (a 10- by 1-inch plastic strip impregnated with 10 percent fluvalinate)
- Apistan® Package Bee Strips for treating package bees (a 5- by 1-inch plastic strip impregnated with 2 1/2 percent fluvalinate)
- Apistan® Queen Tabs for treating the queen and her attendants in queen cages (a 1- by 1/2-inch plastic tab impregnated with 1 percent fluvalinate)
- Wire or staples for suspending Apistan® strips
- Steam jenny
- String and button seals or sticky-back seals

3. Equipment for disposing of spent Apistan® strips or tabs:

- Newspaper

4. Forms:

- Limited permits (PPQ Form 530) or
Certificates (PPQ Forms 540 or 554)

Preparation-- Determining What Treatment to Use

If the beekeeper is planning to move:	Then:
Queen bees in shipping cages	Use Procedure A
2 or 3 pound packages of bees	Use Procedure B
Bees in hives	Use Procedure C
Bees <u>other than</u> those that are listed in the three cells above (like 5 pound packages, battery boxes, etc.)	REFUSE TO CERTIFY THE MOVEMENT OF THE BEES OR TO TREAT THEM
Articles other than bees	Use Procedure D

METHODS AND PROCEDURES

Directions for Applying Regulatory Treatments--Procedure A

Directions for Treating Queen Bees in Shipping Cages

Step 1--Placing the Tab

Before the queen bee and her attendants are put in the three-hole shipping cage, wedge an Apistan® Queen Tab in the bottom of it. **Caution:** Wedge the tab in the hole farthest from the candy plug of the queen cage.

Step 2--Marking the Empty Cage

Using a waterproof marker, record the date of treatment on the back of the queen cage.

Step 3--Filling the Queen Cage

Have the beekeeper fill the cage(s).

Step 4--Setting a Date for Your Return

Tell the beekeeper you'll return in 3 days for removal of the Apistan® Queen Tabs and to issue a certificate.

Return in 3 days for removal of the Apistan® Queen Tab(s), for removal of any dead mites, and to issue a certificate. Ensure that the treated queen bees are safeguarded from reinfestation and notify the beekeeper that the queens must be shipped within 48 hours.

Step 5--Disposing of Spent Pesticide

Dispose of the spent Apistan® Queen Tabs. Wrap the tabs in newspaper and put them in the trash. **CAUTION:** Do not remove the spent tabs from the beeyard since the tabs could be carrying pathogens of bees.

CAUTION: Advise the beekeeper to store the queen shipping cages at 50-55°F during the 3 day treatment and to keep the bees out of bright light. Such storage will enhance the survival of the queen bees. Recommend that the beekeeper change the candy plug after treatment and prior to shipment.

METHODS AND PROCEDURES

Directions for Applying Regulatory Treatments--Procedure B

Directions for Treating Package Bees in Shipping Cages

- Step 1--Determining if Queen Shipping Cages Are Moving With the Packages If the packages of bees are to include queen cages, prepare the queen cages following the directions in Procedure A. Then, after the bees in the queen cage have been treated , and the package bees have been treated, allow the beekeeper to add the treated queens to the treated package.
- Step 2--Treating the Package Bees To prepare an empty cage, ensure that the the Apistan® Package Bee Strip is suspended inside the cage at its top by having it stapled to the top, hung from a wire, or stapled to an empty queen cage. Have the strip placed adjacent to the syrup can so that it will not interfere with this feeder. Make sure the strip hangs from top to bottom.
- Step 3--Packaging the Bees Have the beekeeper fill the cage(s) with bees. Do not allow filled queen cages to be added.
- Step 4--Safeguarding the Package Seal the cage(s) and record the date sealed and seal number(s).
- Step 5--Setting a Date for Your Return Tell the beekeeper that you'll return in 5 days for removal of the Apistan® Package Bee Strips and to issue a certificate.
- Step 6--Certifying Movement Return in 5 days to break the seals, for removal of the Apistan® Package Bee Strips, for the removal of any dead mites, for the attachment of the queen cage containing a mite free queen (if a part of the package), and to issue a certificate. Ensure that the package(s) is safeguarded from reinfestation and notify the beekeeper that the bees must be shipped within 48 hours.
- Step 7--Disposing of Spent Pesticide Dispose of the spent Apistan® Package Bee Strips. Wrap the strips in newspaper and put them in the trash. **CAUTION:** Do not remove the spent strips from the beeyard since the strips could be carrying pathogens of bees.

CAUTION: Advise the beekeeper to store the packages at 50-55°F during the 5 day treatment and to keep the bees out of bright light. Such storage will enhance the survival of the bees. Recommend that the beekeeper change the feeder after treatment and prior to shipment.

METHODS AND PROCEDURES

Directions for Applying Regulatory Treatments--Procedure C

Directions for Treating Bees in Hives

Step 1--Removing Honey Supers Make sure that all honey supers are removed before hanging an Apistan® strip.

Step 2--Obtaining the Apistan® Strips Make sure that there are enough Apistan® strips to allow the placement of two strips per hive.

Step 3--Preparing the Apistan® Strips Put a nail through the top of each strip so that it can be hung between brood frames.

Step 4--Deciding Where to Hang the Apistan® Strips Have the cover of the hive removed so that you can see the frames.

If:	Then:
Eight to ten frames are present	Hang two strips--one between the 3rd and 4th frame; the other between the 7th and 8th frame
Less than eight frames are present	Hang two strips between two sets of frames so that the strips are spaced equally on both sides of the hive

Step 5--Covering the Hive Have the cover placed back on the hive and apply a seal or tamper proof tape.

Step 6--Setting a Date for Your Return Tell the beekeeper that you'll return in 21 days for removal of the Apistan® strip and to issue a limited permit.

Step 7--Issuing a Limited Permit Return in 21 days to see if the seals or tape are in place, for removal of the Apistan® strips, and to issue a limited permit. Ensure that the hives are safeguarded from reinfestation. Tell the beekeeper that the bees must be moved in 48 hours in either an enclosed truck or in an open truck covered with netting so that bees are prevented from escaping or entering during shipment.

Step 8--Disposing of Spent Pesticide Dispose of the spent Apistan® strips. Wrap the strips in newspaper and put them in the trash. CAUTION: Do not remove the spent strips from the beeyard since the strips could be carrying pathogens of bees.

METHODS AND PROCEDURES

Directions for Applying Regulatory Treatments--Procedure D

Directions for Certifying Articles Other Than Bees*

Step 1--Giving the Beekeeper an Option

Allow the beekeeper to either:

- Hold the article and isolate it from possible sources of infestation for seven days; or
- Steam clean the article using a portable steam jenny or other steam generating device. Make sure the steam removes all debris. **CAUTION:** Steam may remove paint from painted surfaces.

Step 2--Certifying Movement

Once you have supervised the steam cleaning of the article or verified that it has been held in isolation for seven days, issue a certificate. Ensure that, after isolation for seven days (or treatment by steam), the article is safeguarded from reinfestation. Notify the beekeeper that the regulated article(s) must be shipped or moved within 48 hours.

* Specifically: hives and hive equipment, empty shipping and storage containers, and vehicles used at beeyards; pollen used for bee food; and anything else the officer determines presents a risk of spreading the Varroa mite, when the person in possession of the article or means of conveyance is notified that it is subject to this subpart.

DEFINITIONS

Apiary--A beeyard or place where bees are kept.

Apistan®--The registered name of a pesticide that has as its active ingredient fluvalinate and is used on the Varroa mite.

Beehive--A container for housing honeybees consisting of a base or stand, a bottom board, a lower rectangular hive body (deep super) containing frames for brood, one or more upper supers that provide room for storing honey, and a weatherproof cover.

Beeyard--A place where bees are kept.

Bottom board--The base or floor of the beehive.

Brood chamber--The part of the hive set aside for brood rearing; usually a deep super set immediately above the bottom board.

Certificate--A document issued at point of origin that authorizes the movement of a regulated article that is certifiable under the provisions of the Varroa mite quarantine.

Cover--A shallow, weatherproof box that covers the hive.

Detection--The act of finding something that was concealed, hidden, or eluded observation--in this case the Varroa mite.

Excluder--A screen with divisions large enough to permit passage of workers but not a queen bee that is placed between chambers or supers of a hive.

Foundation--A thin sheet of pressed beeswax imitating the bottoms of natural honeycomb cells that is placed in a frame to shorten the time for and increase uniformity in comb building by hived honeybees.

Frame--An openwork wooden structure usually enclosing a sheet of foundation placed in a beehive to encourage honeybees to build honeycombs in an orderly fashion.

Hive tool--A blunt metal chisel that has the end opposite the blade bent at right angles to the shaft and is used by beekeepers to open hives, separate supers, and scrape away bee gum (propolis) from parts of the hive.

Honey super--A box containing frames placed above the brood chamber of a beehive, usually separated from the brood chamber by a queen excluder, that provides room for storing honey.

Inner cover--A board with an oblong cutout in the center to provide ventilation that goes on the uppermost super of the hive.

Limited permit--A document issued at point of origin that authorizes the movement of a regulated article to a specified destination; the article is not certifiable under the provisions of the Varroa mite quarantine. Contrast with certificate.

Package bees--Bees packaged and sold by weight to constitute the nucleus of a hive.

Queen cage--A small container to hold a queen bee and a few workers for shipment.

Regulated article--An item designated in the Varroa Mite Subpart as capable of spreading the Varroa mite, specifically: Varroa mites; all bees of the genus Apis (alive or dead); hives and hive equipment, shipping and storage containers, and vehicles used at beeyards; pollen used for bee food; and anything else the officer determines presents a risk of spreading the Varroa mite, when the person in possession of the article or means of conveyance is notified that it is subject to this subpart.

Smoker--A bellows-driven device for making and directing puffs of smoke at bees so as to quiet them.

Steam jenny--A machine for cleaning grease or paint from surfaces by means of a jet of steam (also called a jenny).

Super--A box containing frames placed above the bottom board.

Varroa Mite Detector--A commercially made wooden frame with a protective plastic, mesh screen that accepts a sticky bottomed insert used to trap the Varroa mite.

APPENDIX 1

This section is reserved for Appendixes. Currently there are no appendixes to this manual. When you receive a label for "Apistan®" place it on this page. The pesticide label is your first Appendix.

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COMMENT SHEET

Directions: Use this sheet to suggest an improvement or to identify a problem in the content of the manual. Mail this franked form following the directions on the back of this Comment Sheet.

Description of problem (error, inconsistency, missing or insufficient information, etc.):

Description of improvement or recommended change (add attachments if necessary):

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Reason for the improvement or change:

